User Manual UWMS-01 Version 2.0

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I. Introduction

A. What is the UWMS-01?

The Universal Wireless Monitoring System ("UWMS-01") enables Sprint to monitor and control its network devices ("Devices") such as repeaters and DAS remotely and wirelessly. Due to its universality, any HTTP-based devices with standard Ethernet interface can be connected to the UWMS-01. Using the UWMS-01 Sprint will be able to access the Devices connected to the UWMS-01 to monitor them or change their parameters without visiting the physical site. This wireless monitoring and control capability enables Sprint to proactively diagnose and troubleshoot problems remotely even before a customer complaint is received. This translates into less network management costs and increased customer satisfaction.

This means anytime, anywhere access to Sprint's Devices from everywhere.

- Higher data throughput using 1xEV-DO Rev. A wireless module
- Managing multiple devices (up to 8 repeaters or 32 DAS remote nodes) simultaneously
- Built-in 10/100 Mbps switching HUB
- Eight Ethernet ports
- Conversion of dry contact alarms to SNMP alarms
- Tested compatibility with the following Devices:
  ADRF Repeaters, Andrew ION™-B, Dekolink Repeaters, GS Teletech Repeaters, LGC Fusion®, MobileAccess 410, SK Telesys Repeaters, and R-tron Repeaters.

The UWMS-01 works seamlessly with multiple Devices from the different manufacturers listed above. For the most recent list of compatible Devices, please visit www.symtechnology.com.

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B. What is in the Box?

No	Item	Part Number	Qty
1	UWMS-01 Main Body	UWMS01	1
2	Ethernet Cable	UWMS01ET	2
3	Mounting Screws	UWMS01SC	4
4	Dipole Antenna	UWMS01AT	1
5	N to SMA Connector Adaptor	UWMS01NS	1
6	DC Power Cord	UWMS01DC	1
7	AC Power Cord	UWMS01AC	1
8	DE-15 male to male Cable	UWMS01DR	1
9	Quick Start Guide	UWMS01QG	1

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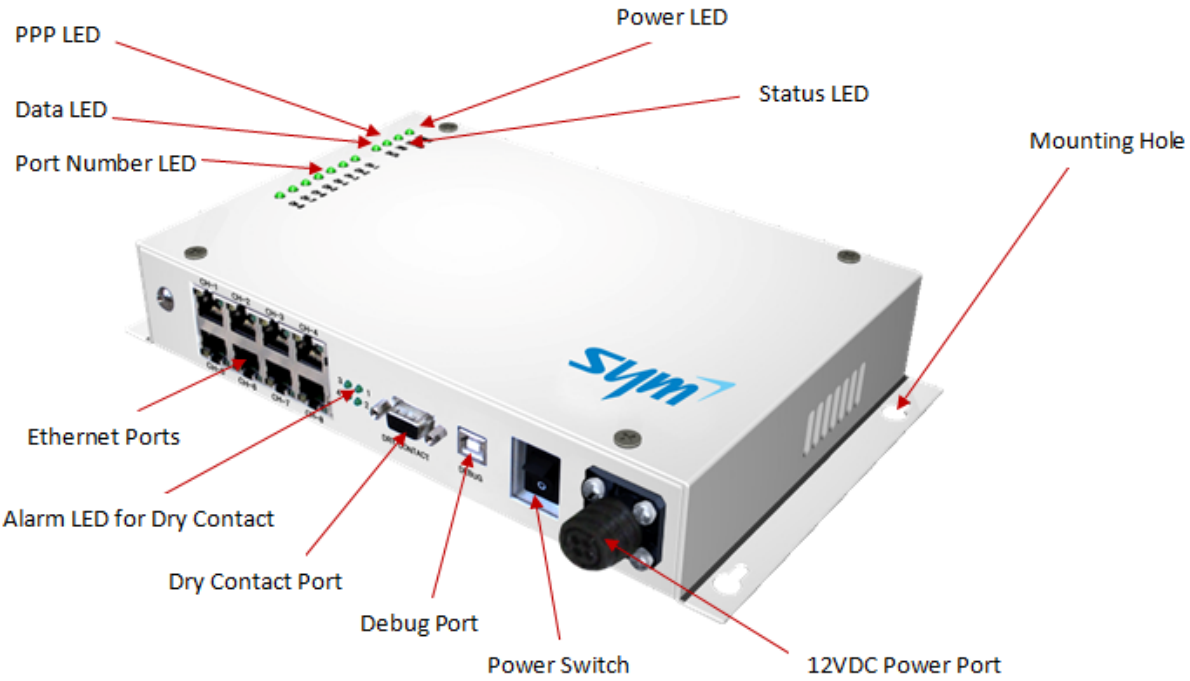
C. UWMS-01 at a Glance



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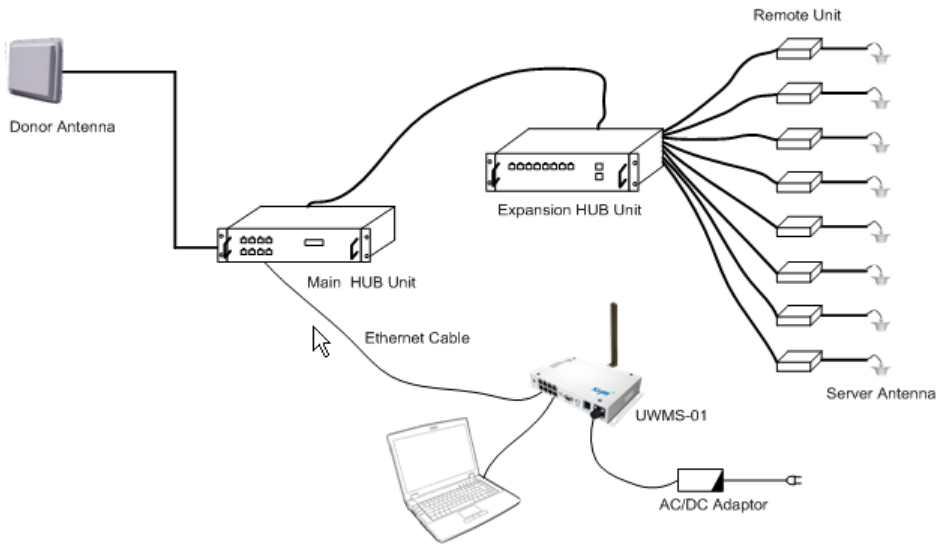
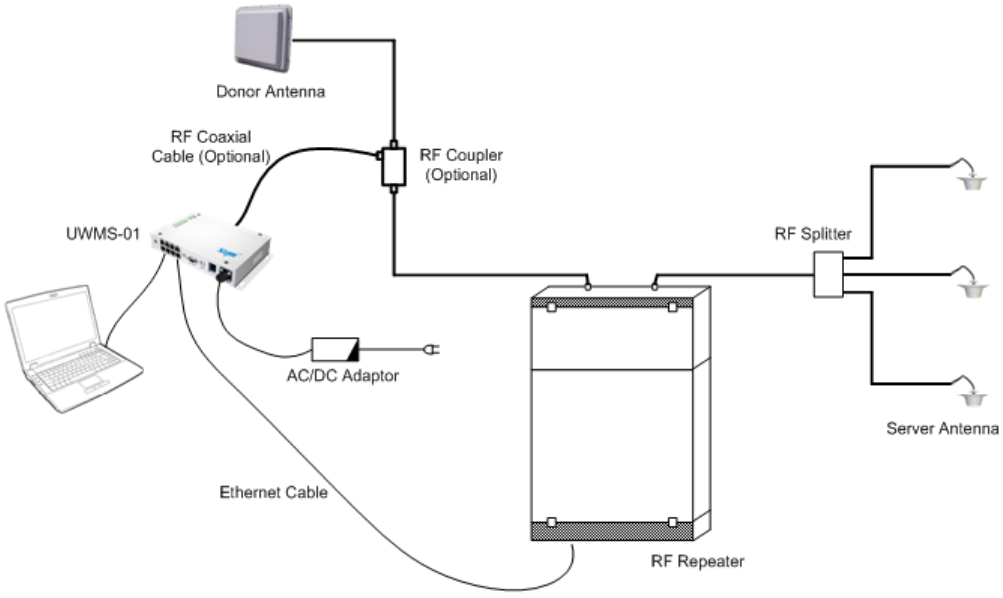
II. Installation Overview

Drawing 1 shows a typical installation when the UWMS-01 is set up with its supplied dipole antenna. Make sure the received signal strength is greater than **-85 dBm** at the installation site.



Drawing 1 – Connecting the UWMS-01 to a DAS using a dipole antenna

If sufficient signal is not present at the installation site, you have a few options: (1) You can couple the stronger signal from the Device's **donor** port using an RF coupler. (See Drawing 2.);



Drawing 2 – Connecting the UWMS-01 to a repeater of which donor signal is coupled to the UWMS-01's antenna port

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(2) You can place the UWMS-01 where there is a Sprint signal greater than **-85 dBm**. But, make sure the distance between the UWMS-01 and the Device does not exceed approximately **328 feet** (100 meters); or (3) You can place the UWMS-01 near the Device but place the supplied dipole antenna where there is a Sprint signal greater than **-85 dBm** using an extension coaxial cable.

1. In order to set up the UWMS-01, you have to change the Device's network configuration first.*****
*(*Device is the Sprint-approved network equipment, e.g., repeaters and DAS that you want to monitor using the UWMS-01. We assume that all Devices have HTTP-based local GUI. Please contact the Device manufacturer if you do not know how to access the local GUI of the Device and how to change its settings.)*

a. Change the Device's IP address and Site ID (Cascade code) to the following:

IP address: **192.168.1.XX** (XX can be any number from **2** to **99**)******
Subnet mask: **255.255.255.0**
Default gateway: **192.168.1.100**
Manager IP: **10.22.25.15**
Site ID (Cascade code): **Unique Site ID assigned by Sprint**

*(**When you connect multiple Devices to the UWMS-01, assign different IP addresses to the Devices, e.g., 192.168.1.**2**, 192.168.1.**3**, and 192.168.1.**99**. Also, each Site ID (Cascade code) must be unique for each Device.)*

Alternative Set-up:

IP address: Subnet mask: Default gateway: **If the Device does not allow you to change its static IP address and has the DHCP client feature, the UWMS-01 will assign the IP address automatically.**
Manager IP: **10.22.25.15**
Site ID (Cascade code): **Unique Site ID assigned by Sprint**

b. Make sure the Device's heartbeat mode is on and set heartbeat period to 20 minutes.*******

*(***For testing purposes you may want to set a shorter heartbeat period, e.g., 1 minute. Make sure to change it back to 20 minutes before you leave the installation site.)*

c. Make sure the Device has GPS (latitude/longitude of the site) information stored. If GPS information is missing, Sprint NOC will not accept heartbeats from the site.

d. Make sure the Device is working properly.

2. Connect the UWMS-01 to the Device as shown above in Drawing 1 or Drawing 2.

a. Using the supplied Ethernet cable, connect Device to the UWMS-01's Ethernet port.

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b. The UWMS-01 can be powered by the supplied AC adapter (UWMS01AC) or by DC power cord (UWMS01DC) if Device has a 12VDC outlet. Using AC power is recommended.

c. Using the supplied Ethernet cable, connect your laptop to the UWMS-01's Ethernet port.

d. Turn on the UWMS-01.

3. Change your laptop's Local Area Connection setting.

a. Go to Network Connections > Local Area Connection > Internet Protocol (TCP/IP) Properties. Select "Obtain an IP address automatically." It may take a few minutes to obtain an IP address.

b. Alternatively, you can select "Use the following IP address" and input the following information:

IP address: **192.168.1.200**
Subnet mask: **255.255.255.0**
Default gateway: **192.168.1.100**

4. Configure the UWMS-01.

a. Open Microsoft Internet Explorer and type the following URL:

http://192.168.1.100:8888

b. When prompted, input the following User Name and Password:

User Name: **sym**
Password: **sym**

c. Go to UWMS-01 Set-up menu and input the following information, then click Apply.

Site ID (Cascade code): **Change "SYMTEST" to the Site ID provided by Sprint**
Latitude: Input the latitude information **N/S +ddd.dddddd**
Longitude: Input the longitude information **E/W –ddd.dddddd**
Heartbeat Interval: **20 minutes**
Heartbeat On/Off: **On**

For more detailed instructions, refer to Chapter III. D. UWMS-01 Set-up on page 15.

d. Go to Network Device Status menu and check whether the Devices are automatically registered in the Network Device Status table.

For more detailed instructions, refer to Chapter III. A. Network Status on page 9.

e. Visual inspection: Confirm from the UWMS-01's front panel that the LEDs show normal operation as follows:

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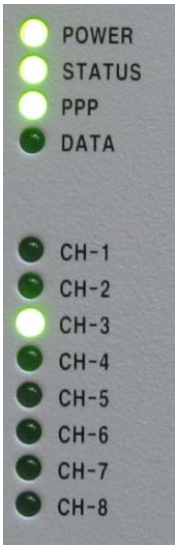

Power LED is lit in solid green
Status LED blinks periodically when in normal operation
PPP LED is lit in solid green when PPP session is on
Data LED blinks in green only when data is being transmitted

Corresponding CH-LED(s) to which Devices are connected are lit in green

f. **Congratulations!** The Devices can be monitored and controlled through Sprint networks wirelessly and remotely.

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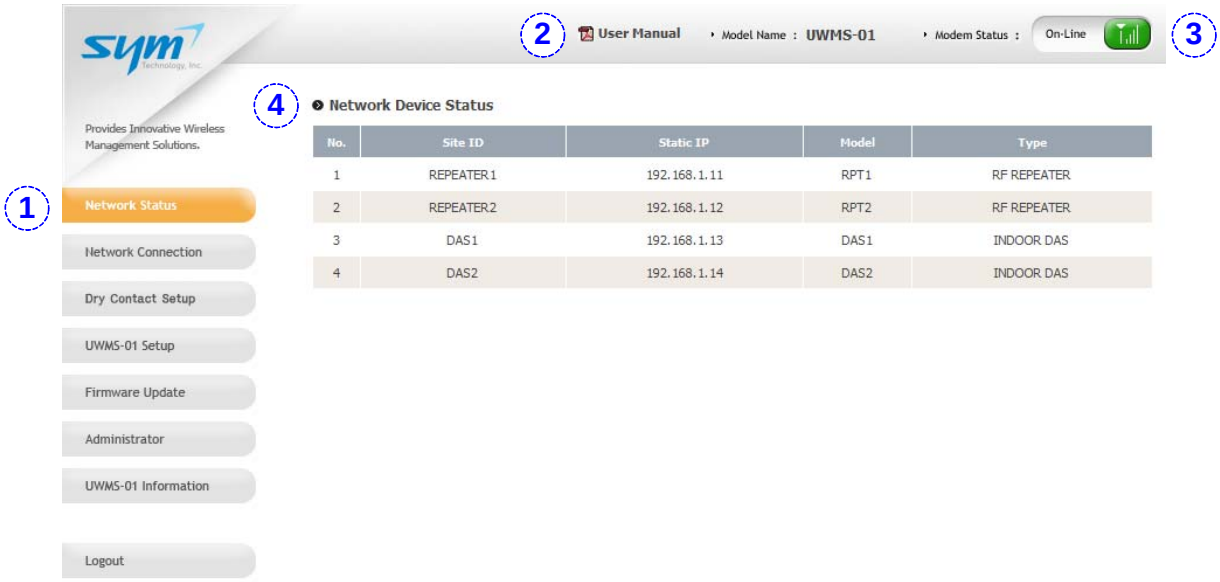
III. Setting up the UWMS-01 Using Graphic User Interface

The UWMS-01's GUI consists of eight (8) intuitive, easy-to-follow menus. When you logged in as a Member, you will see seven (7) menus. Only the Administrator can see the Administrator menu.

A. Network Status



Picture 1. Network Status Menu Screenshot

(1) Network Status gives you at-a-glance overview of the Devices connected to the UWMS-01.

(2) You can open/save/print the UWMS-01's User Manual.

(3) The Modem Status displays the UWMS-01's modem connection status (On-Line/Off-Line).

(4) Network Device Status:

The Network Device Status displays the information of the Devices connected to the UWMS-01. A total of 32 Devices can be displayed in the table. When the UWMS-01 receives heartbeats from the Devices periodically, the Device information is in black. If more than 24 hours pass without receiving a single heartbeat from a Device, the Device is indicated in red, indicating inactivity. This will turn black again when the UWMS-01 starts receiving heartbeats from the previously dormant Device.

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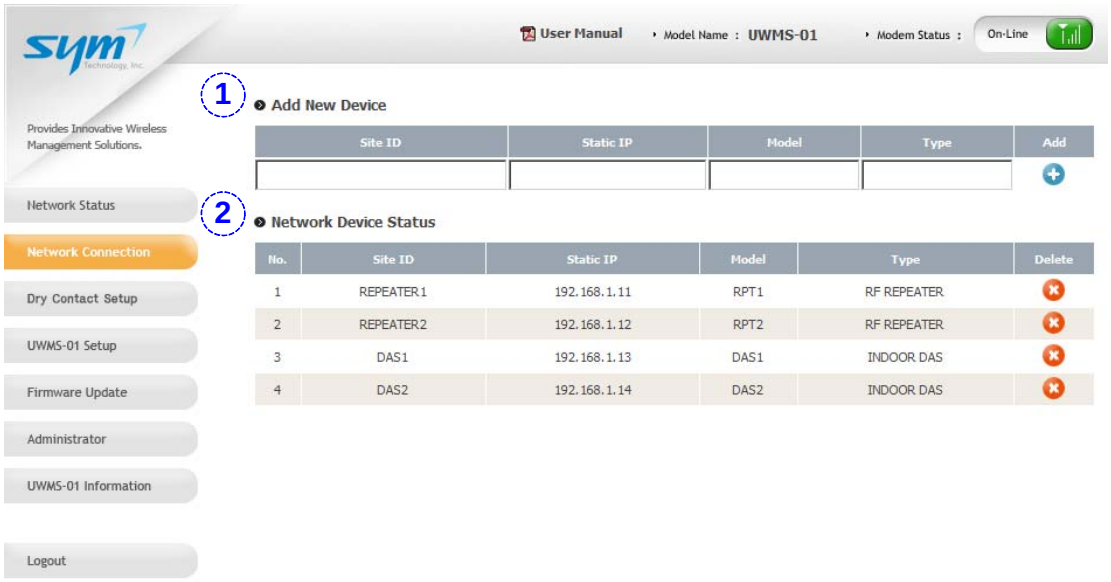
B. Network Connection

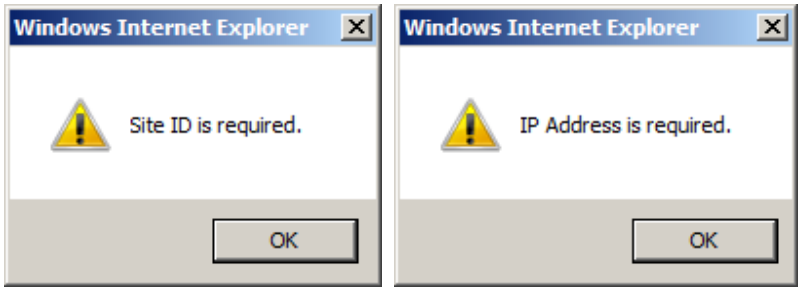
You can add or delete Devices manually.



Picture 2. Network Connection Menu Screenshot

You can add Devices to the UWMS-01 either automatically or manually. When you connect a Device, simply wait until the Device starts sending out a heartbeat to the UWMS-01. If the Device's Site ID and Static IP are set up correctly, and the Device is sending out a heartbeat, the UWMS-01 will receive the Device's heartbeat information and register the Device automatically. Alternatively, you can manually input the Device's information (**Site ID, Static IP, Model,** and **Type**) in the Add New Device table.

(1) Add New Device: Type in the necessary information (**Site ID** and **Static IP address)** and then click the plus sign. You will see the information added in the Network Device Status table. If the Site ID or Static IP information is missing, the following dialogue box will appear:



Picture 3. Information Missing Dialogue Box

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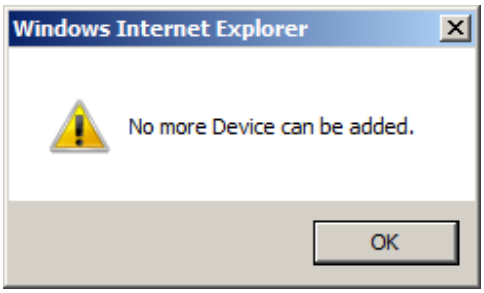
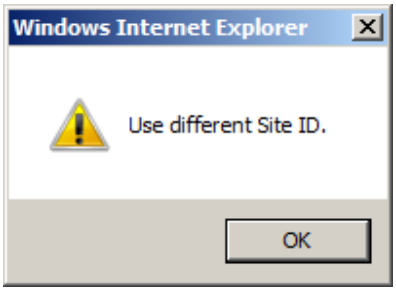
You can add up to 32 different Devices to the UWMS-01. If you attempt to add more than 32 Devices, the following dialogue box will appear:



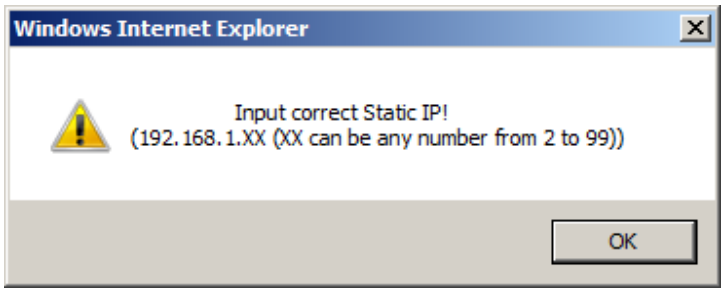
Picture 4. Devices Maxed Out Dialogue Box

Site ID: Device's unique Cascade code provided by Sprint. The Site ID can be up to 35 alpha-numeric characters, upper and lower cases. Do not use spaces or special characters. All Site IDs must be unique. When you input a Site ID that is already registered, the following dialogue box will appear:



Picture 5. Identical Site ID Exists Dialogue Box

Static IP address: Device's fixed IP address assigned by installer. The Static IP must follow the proper format and the IP address must be within the range specified, e.g., 192.168.1.XX (XX can be any number from 2 to 99). *(See also II. Installation Overview 1. (a) Change Device's IP address and Site ID on Page 6.)* When the Static IP is either in the wrong format or out of the range, the following dialogue box will appear:



Picture 6. Input Correct Static IP Address Dialogue Box

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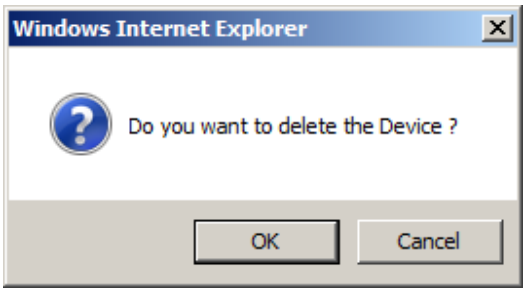
Model and Type information are optional. You will be able to register the Device without inputting the Model and Type information. However, the Site ID and Static IP address must be provided.

Model: Alpha-numeric up to 25 characters showing Device model name.

Type: Alpha-numeric up to 20 characters indicating Device type, e.g., RF Repeater, DAS, Router, UPS, etc.

(2) Network Device Status: The table displays all the Devices connected to the UWMS-01. A maximum of 32 Devices can be displayed in the table. If you want to remove a Device, simply click the red button in the Delete column. The following dialogue box will appear to confirm:



Picture 7. Deletion Confirmation Dialogue Box

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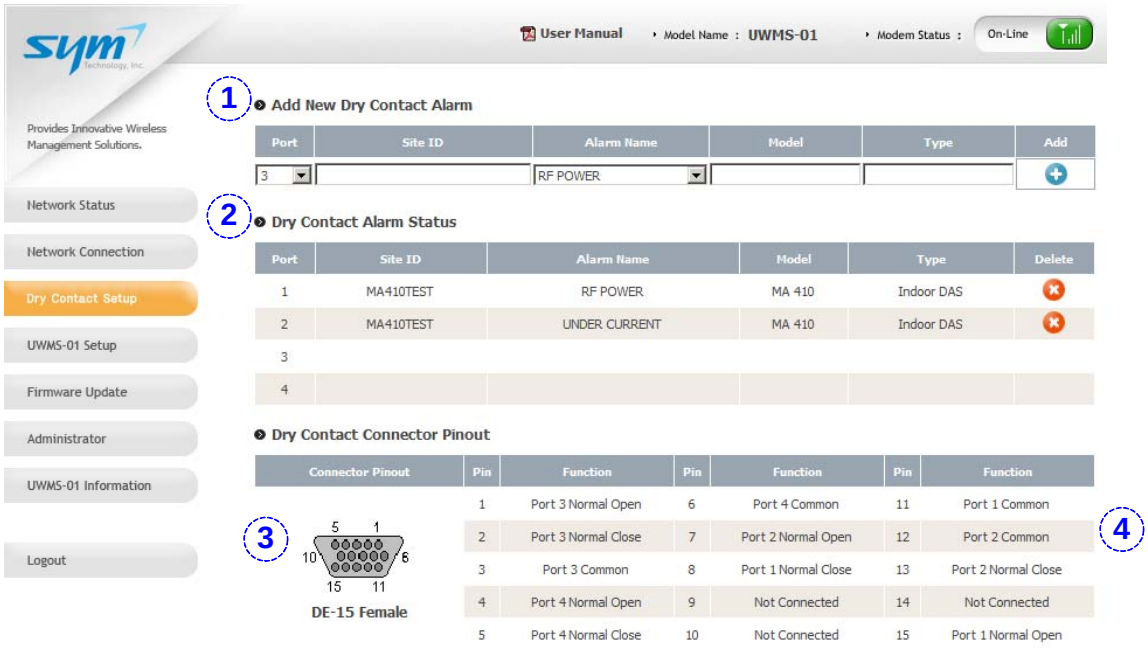
C. Dry Contact Set-up

Some legacy Sprint Devices do not have Ethernet interface, e.g., MA 410. Devices which have dry contact alarms can still be connected to the UWMS-01 through the UWMS-01's dry contact port. The UWMS-01 can receive up to four (4) dry contact alarms and convert these to one of the five (5) SNMP alarms defined in the Sprint MIB.

There are four (4) LEDs on the bottom of the UWMS-01, matching the four (4) dry contact alarms. When an alarm event occurs, the corresponding dry contact LED will be lit in solid green. When the alarm clears, the LED will be off.



Picture 8. Dry Contact Set-up Screenshot

(1) Add New Dry Contact Alarm: Assign a proper Port number (1~4), input Site ID provided by Sprint, select one of the 5 alarms with which you want to associate the dry contact alarm, then click the blue plus sign. If you select "RF Power," when alarm event occurs, Sprint NOC will see the event as "RF Power" alarm. Model and Type information are not required.

(2) Dry Contact Alarm Status: The table shows the information of the registered dry contact alarm. You can delete the Device by clicking the red button in the Delete column.

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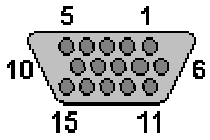
(3) Connector: The UWMS-01 has a 3-row DE-15 female connector, same as the VGA (RGB) connector.



(4) Connector Pin Map: Please refer to the pin map information in the table when you connect a Device with dry contact alarm. The supplied DE-15 male to male cable only works with the MA 410. You may need a customized cable to have your Device work with the UWMS-01. Please contact our technical support if you need further assistance.

Pin	Function	Pin	Function	Pin	Function
1	Port 3 Normal Open	6	Port 4 Common	11	Port 1 Common
2	Port 3 Normal Close	7	Port 2 Normal Open	12	Port 2 Common
3	Port 3 Common	8	Port 1 Normal Close	13	Port 2 Normal Close
4	Port 4 Normal Open	9	Not Connected	14	Not Connected
5	Port 4 Normal Close	10	Not Connected	15	Port 1 Normal Open

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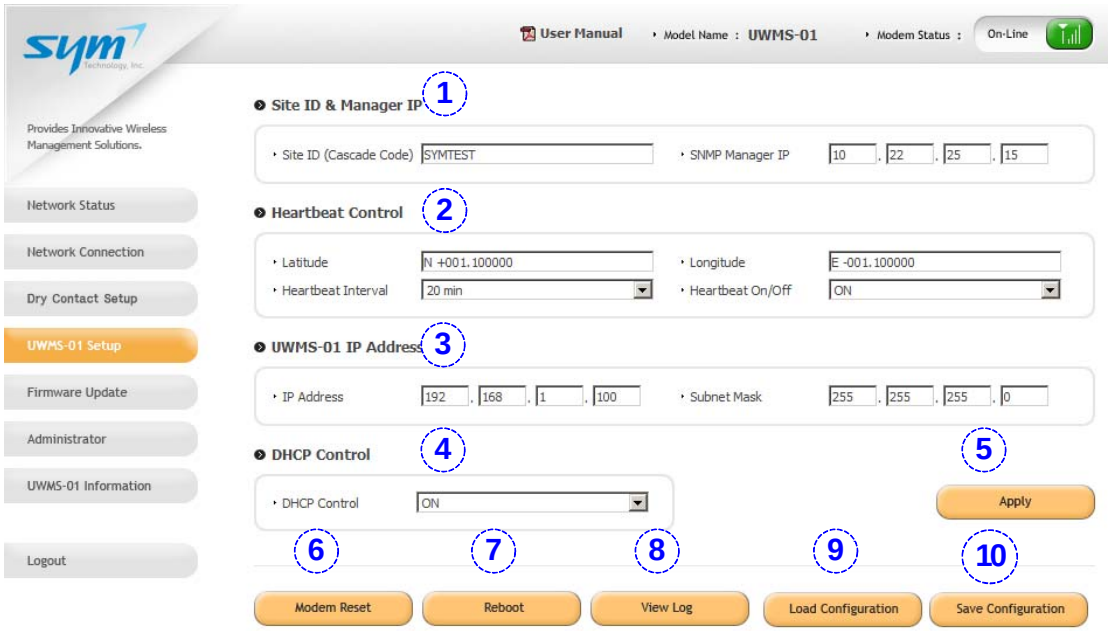
D. UWMS-01 Set-up



Picture 9. UWMS-01 Set-up Menu Screenshot

(1) Site ID & Manager IP: Type in the Site ID assigned by Sprint. SNMP Manager IP is the target IP to which the UWMS-01's data is directed. Use **10.22.25.15** (default value) as the SNMP Manager IP unless you are told otherwise. Click the orange Apply button to effectuate the change.

(2) Heartbeat Control:

i. Latitude and Longitude: Type in the GPS information of the site where the UWMS-01 is installed. Without the location information, heartbeats will not be generated. The latitude format is ('N/S') (+/-) ddd.dddddd, e.g., N +39.006957. The longitude format is ('E/W') (+/-) ddd.dddddd, e.g., W -94.532306. To effectuate the change, click Apply.

ii. Heartbeat Interval: Set the heartbeat interval from 1 to 60 minutes using the drop-down box. The default interval is 20 minutes. To effectuate the change, click Apply.

iii. Heartbeat On/Off: You can turn off the heartbeat. However, it is advised that you always turn on the heartbeat when the UWMS-01 is in operation. To effectuate the change, click Apply.

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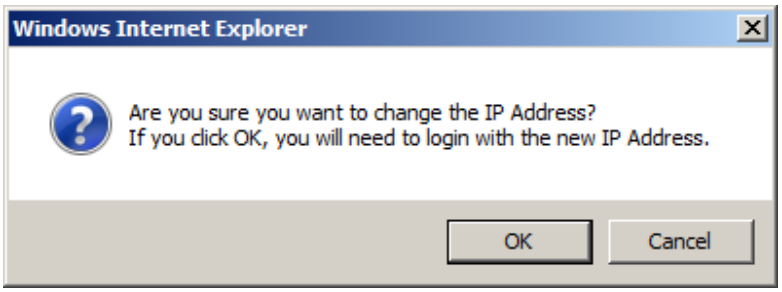
(3) UWMS-01 IP Address:

i. IP Address: The UWMS-01's default IP address is **192.168.1.100**. If you change the default IP address, the following dialogue box will appear to confirm. In case where you assigned your laptop's IP address manually (as opposed to "Obtain an IP automatically"), you must change your laptop's Local Area Connection accordingly to connect to the UWMS-01. In order to open the UWMS-01's GUI program, you will need to login again and type in the new IP address.

http://192.168.1.100:8888/device_setup.asp (Default)

http://New IP Address:8888/device_setup.asp (New)


Windows Internet Explorer
Are you sure you want to change the IP Address?
If you click OK, you will need to login with the new IP Address.
OK
Cancel

Picture 10. UWMS-01 IP Address Change Dialogue Box

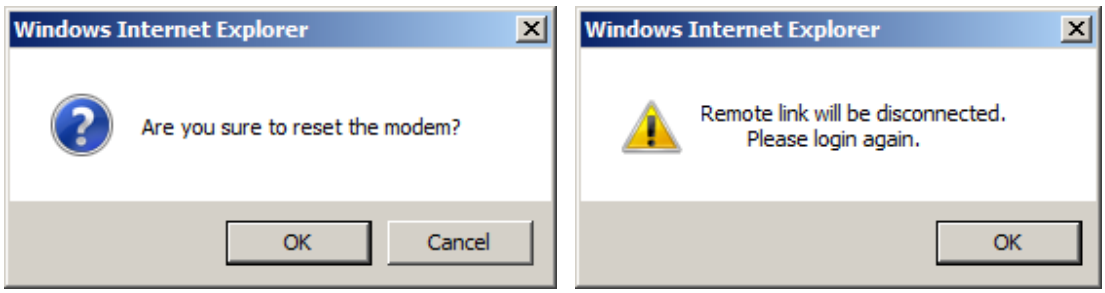
The Member is not allowed to change the UWMS-01's IP address. Only the Administrator can change the IP address.

ii. Subnet Mask: The default Subnet Mask is **255.255.255.0**.

(4) DHCP Control: If you cannot assign a Static IP address to the Device and the Device has a DHCP client, the DHCP server of the UWMS-01 will automatically assign an IP address to the Device connected. The IP addresses assigned by the UWMS are within the range from 192.168.1.110 to 192.168.1.199. The default DHCP mode is on.

(5) Apply: To effectuate changes you make in (1) through (4), click Apply then the page will refresh.

(6) Modem Reset: You can manually force the modem to re-register on the network by clicking Modem Reset. When you are connected remotely, you need to login again after you reset the modem.



Picture 11. Modem Reset Confirmation Dialogue Box

The UWMS-01 automatically terminates the PPP session and re-registers every hour automatically.

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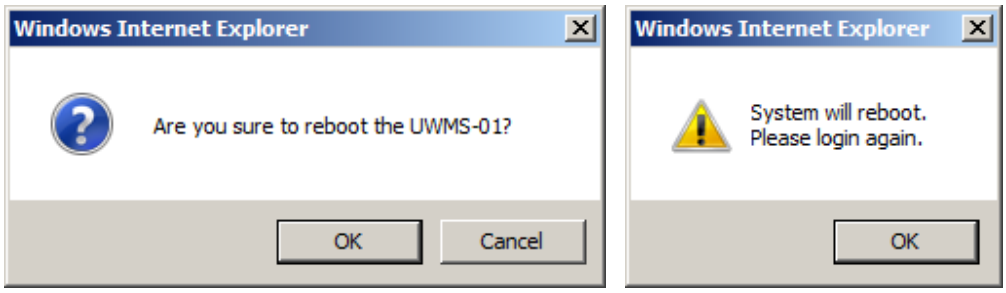
(7) Reboot: You can restart the UWMS-01 by clicking Reboot. If you click OK, your current Web browser will be closed, and after 2~3 minutes, you can login again.



Picture 12. Reboot Dialogue Box

The UWMS-01 automatically reboots itself every 12 hour to protect itself from an unexpected interruption of operation and memory shortage.

(8) View Log: By clicking View Log, you can see some vitals of the UWMS-01 in text format.

(9) Load Configuration: By clicking Load Configuration, you can download the configurations that you had previously saved. It is especially convenient when you have to replace an UWMS-01 with a new unit. You do not need to set up the UWMS-01 again. By simply downloading the saved configuration, you can restore the configuration that you had previously saved.

(10) Save Configuration: You can save the current UWMS-01 configurations to your laptop for future reference.

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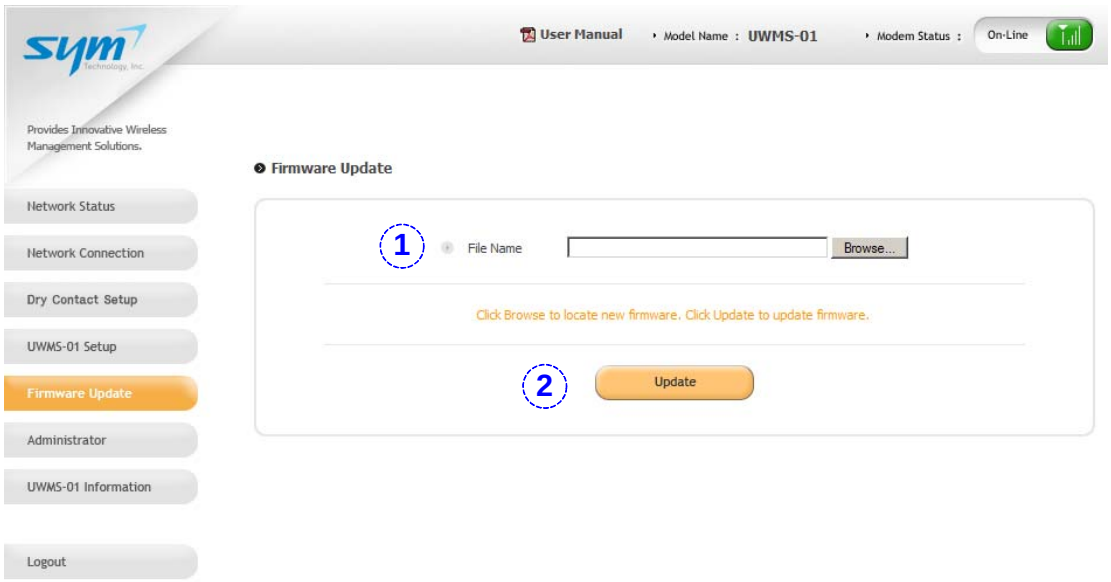
E. Firmware Update

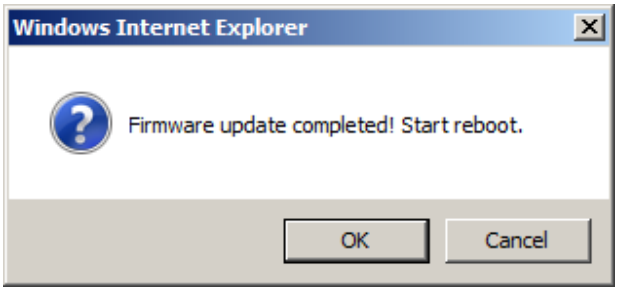
You can update the UWMS-01's firmware.



Picture 13. Firmware Update Menu Screenshot

(1) File Name: Click Browse and locate the firmware on your laptop. Then click the Update button.

(2) Update: When the firmware is downloaded and updated successfully, the following dialogue box will appear. When you click OK, the UWMS-01 will restart.



Picture 14. Update Successful Dialogue Box

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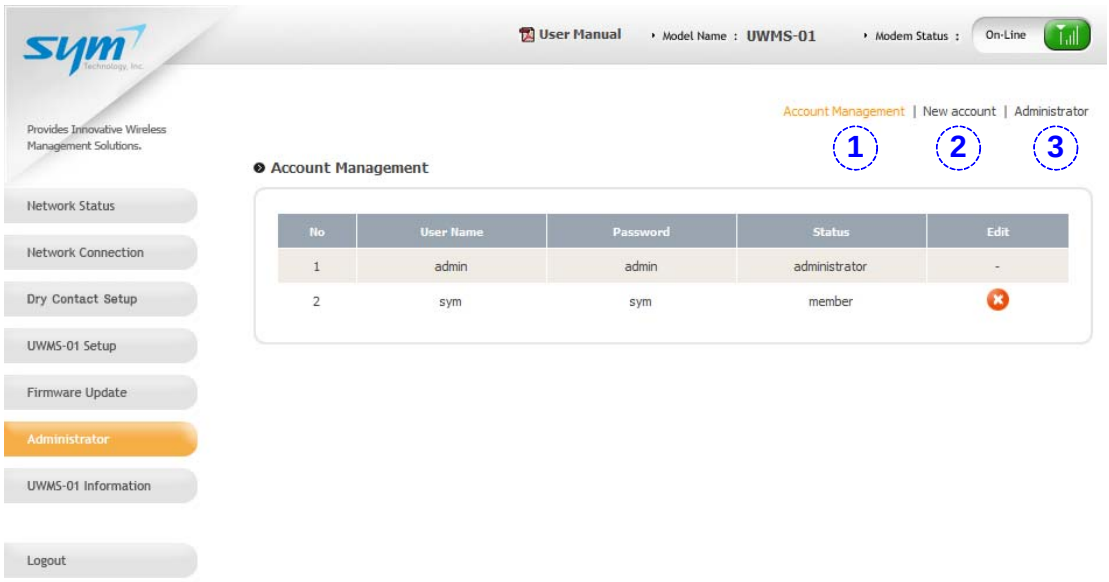
F. Administrator

You can manage user accounts that can access the UWMS-01 by assigning different levels of access rights.



Picture 15. Administrator Menu Screenshot

The Administrator Menu is only available when you are logged in as the Administrator (Super User). When a Member logs in, the Member cannot access the Administrator Menu.

(1) Account Management: Displays the User Name and Password of all the registered accounts. To delete an account, click the red button under the Edit column.

(2) New Account: To create a new account, click New Account, type in new User Name and Password, then click Apply. User Name and Password can be up to 15 alpha-numeric characters. They are case-sensitive. Do not use any spaces or special characters.

(3) Administrator: You can change the Administrator's account information only when you are logged in as the Administrator. The default User ID and Password are **admin** for both.

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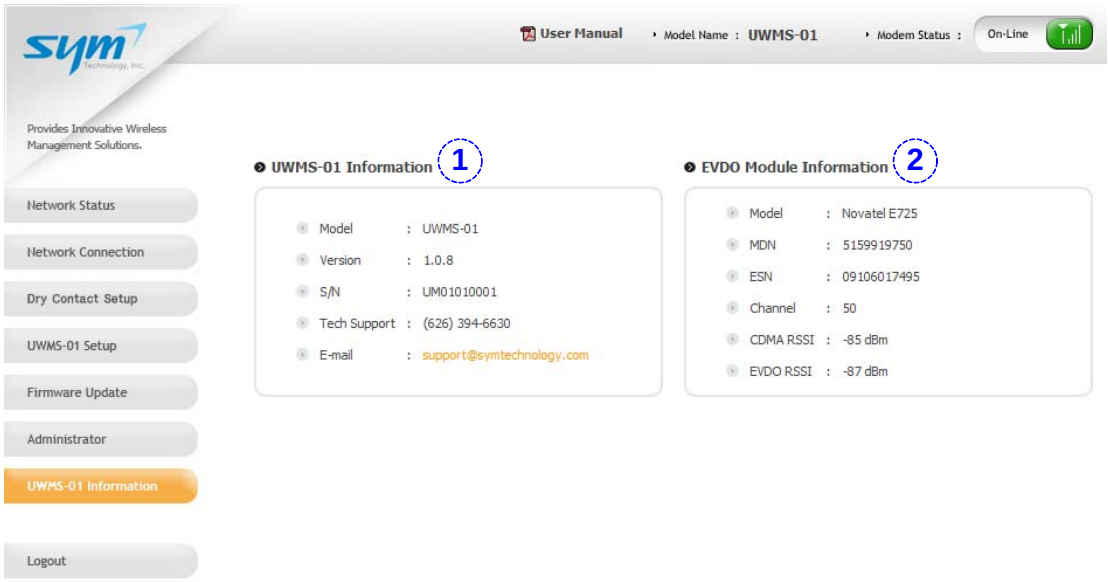
G. UWMS-01 Information



Picture 16. UWMS-01 Information Menu Screenshot

(1) UWMS-01 Information: Displays the UWMS-01's system information, including its firmware version and serial number. Please have the information handy, when you contact SYM's technical support.

(2) EVDO Module Information:

Model: Displays the manufacturer and the model of the module which resides in the UWMS-01.

MDN: Displays the Modem Directory Number.

ESN: Displays the modem's Electronic Serial Number.

Channel: Displays the channel number which was assigned by the nearest BTS.

RSSI: Displays the received signal strength for voice (CDMA) and data (EVDO) separately.

H. Logout

When you logout, you will see a confirmation pop-up window. When you hit OK, you will be directed to the login page automatically.

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IV. Troubleshooting

Description	Try this
Power LED is not lit	Make sure the power cord is properly connected to the UWMS-01. Make sure the power adapter is properly connected to a functioning power outlet. If the power is supplied by other Devices using the DC power cord, make sure the Device is properly powered.
PPP LED is not lit	Make sure the modem's received signal strength is greater than -85 dBm. If the signal is not sufficient, place the UWMS-01 in a place where it has better signal strength, e.g., by a window. If you are using the supplied dipole antenna, couple the antenna port with an external donor antenna of the system to which the UWMS-01 is connected.
Status LED is not blinking	Make sure the Power LED is lit. Turn off the UWMS-01 and turn it back on.
Can't access UWMS-01's GUI	Make sure the Ethernet cable is connected securely both to the UWMS-01 and your laptop. The small green status light next to the Ethernet port should be lit. Make sure you changed your laptop's TCP/IP settings to **Obtain an IP Address Automatically**. When you type in the URL, do not forget the port number at the end, e.g., http://192.168.1.100:**8888**. When your laptop is operated on battery, some laptops automatically disable the LAN card. Enable the LAN card when operating on battery. You should turn off Wi-Fi since this may cause the LAN to disable. You can also try the following: (1) disconnect the LAN cable and connect it again; (2) disable Local Area Connection and then enable it again; or (3) reboot the UWMS-01.
Can't access Device's GUI	Make sure the distance between the UWMS-01 and the Device is less than 328 feet (100 meters). If the problem persists, contact the Device manufacturer.
Device is not registered automatically in Network Device Status table	Check the device's heartbeat setting. Heartbeat must be turned on. Turn off the UWMS-01 and turn it back on. Turn off the Device and turn it back on. Check the Device's IP settings.
Heartbeat is not generated	Make sure the Device has latitude and longitude information stored correctly. Make sure Device's heartbeat is turned on. Make sure PPP LED is lit in solid green.
Can't change the Device's Static IP address	If the Device won't allow you to change its IP address and has the DHCP client feature, make sure the UWMS-01's DHCP is on. Contact the Device manufacturer.

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V. Technical Specifications

A. Electrical Specifications

Power Supply

■ AC Power Supply

Input: AC 100 ~ 240V 50/60Hz

■ DC Power Supply (Direct DC Supply)

Input: 12V±1V, 2A

■ Power Consumption

12[W] Max

Ethernet

■ Standard Compatibility: IEEE802.3 CSMA/CD

■ Ethernet Link: MDI/MDI-X, auto-crossover

■ Data Rate: 10/100MBps Auto Negotiation, half/full-duplex

■ Address Database Size: 1024 MAC addresses

■ Switching Capacity: 1Gbps

B. Environmental Specifications

■ Operating Temperature: 14 ~ 158°F

■ Operating Humidity: 0 ~ 90%

C. Mechanical Specifications

■ Dimension (inches): W: 10.55 D: 6.22 H: 1.77

■ Weight (lbs): 3.2

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VI. Safety and Warranty Information

A. General Precaution

There are several simple guidelines to operating the UWMS-01 properly and safely.

- Avoid exposing the UWMS-01 to extreme temperatures, either hot or cold. The UWMS-01 is for indoor use only.
- Keep the unit in a clean, well-ventilated and dust-free place.
- Avoid exposing the UWMS-01 to rain or liquid spills. If the UWMS-01 gets wet, immediately turn off the power and dry the unit completely.
- Use only the power supply adapter that comes with the unit. Replacement power supply adapters may be ordered from SYM Technology.
- Treat the UWMS-01 with care. Avoid dropping, throwing, or sitting on it. Rough treatment may damage the unit and void the warranty.
- Do not attempt to disassemble your unit. If the warranty seal has been broken, the warranty is no longer valid.
- Any changes or modifications to your unit not expressly approved in this document could void your warranty.

B. Radio Frequency (RF) Energy

The UWMS-01 is a radio transmitter and receiver, just like your mobile phone. When it is turned on, it receives and transmits radio frequency (RF) signals. The RF power level can range from 0.006 watt to 0.25 watt. Please avoid working in close proximity (within 20 cm) to the UWMS-01.

For more information about RF exposure, visit the FCC Web site at
www.fcc.gov

C. Specific Absorption Rates (SAR)

The SAR is a value that corresponds to the relative amount of RF energy absorbed in the head of a user of a wireless device. SAR values at or below the federal standard of 1.6 W/kg are considered safe for use by the public.

Although the UWMS-01 is to be mounted or placed at a specific location, take caution not to have prolonged exposure to the UWMS-01 in close proximity.

D. FCC Notice

This system complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this system may not cause harmful interference, and (2) this system must accept any interference received, including interference that may cause undesirable operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Note: This system has been tested and found to comply with the limits for a Class B digital device, pursuant to the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This system generates uses and can radiate RF energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this unit does cause harmful interference to radio or television reception, which can be determined by turning the unit off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the unit and receiver
- Connect the unit to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician.

E. Manufacturer's Limited Warranty

SYM Technology, Inc. ("SYM") offers a limited warranty that the enclosed unit ("Product") will be free from defects in material or workmanship as follows:

FIVE (5) YEAR LIMITED WARRANTY: For a period of five (5) years from the date of original purchase, SYM will, at its option, either repair or replace a defective Product (with new or rebuilt parts/replacement).

LIMITED WARRANTY ON REPAIRED/REPLACED PRODUCTS: After SYM repairs or replaces the Product, the repaired or replaced Product shall be covered by warranty for the remaining time of the original warranty period or for ninety (90) days from the date of repair, whichever is longer. Repair or replacement may include the use of functionally equivalent reconditioned units. Replaced faulty parts or components will become the property of SYM Technology.

This limited warranty does not cover and is void with respect to the following: (i) Products which have been improperly installed, maintained, modified, or repaired; (ii) Products which have been subject to outdoor use, misuse, physical damage, abnormal use or operation, improper handling or storage, exposure to fire, water, excessive moisture or extreme temperature; (iii) Products operated outside published maximum ratings; (iv) Products on which warranty seals or Product serial numbers have been removed, broken, or altered; (v) cost of installation, set up, removal or reinstallation; (vi) signal reception problems or network problems (unless caused by defect in material or workmanship); (vii) damage as a result of fire, flood, power surge, lightening, acts of God or other acts which are not the fault of SYM and which the Product is not specified to tolerate; (viii) any Products which have been opened, modified, or repaired by anyone other than SYM or a SYM authorized service center.

REPAIR OR REPLACEMENT, AS HEREINABOVE PROVIDED, IS YOUR SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE LIMITED WARRANTY. SYM SHALL HAVE NO LIABLITY FOR ANY INCIDENTAL OR CONESQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF SALES, OR LOSS OF USE OF THE PRODUCT. SYM MAKES NO OTHER EXPRESS WARRANTY, EITHER WRITTEN OR

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VII. Glossary

BTS	Base Transceiver System
DAS	Distributed Antenna System
DHCP	Dynamic Host Configuration Protocol
ESN	Electronic Serial Number
GPS	Global Positioning System
GUI	Graphic User Interface
MDN	Modem Directory Number
NOC	Network Operation Center
PPP	Point to Point Protocol
RSSI	Received Signal Strength (RSS)
UWMS	Universal Wireless Monitoring System

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